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(54) **REQUESTING EMERGENCY SERVICES VIA REMOTE CONTROL**

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H04N 21/4788	(2011.01)
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CPC ***H04N 7/17318*** (2013.01); ***H04N 5/4403*** (2013.01); ***H04N 7/147*** (2013.01); ***H04N 21/42204*** (2013.01); ***H04N 21/42222*** (2013.01); ***H04N 21/4788*** (2013.01); ***H04N 21/6581*** (2013.01); *H04H 20/59* (2013.01); *H04H 60/52* (2013.01)

(58) **Field of Classification Search**

CPC H04N 21/42204; H04N 21/42222; H04H 20/59; H04H 60/52

See application file for complete search history.

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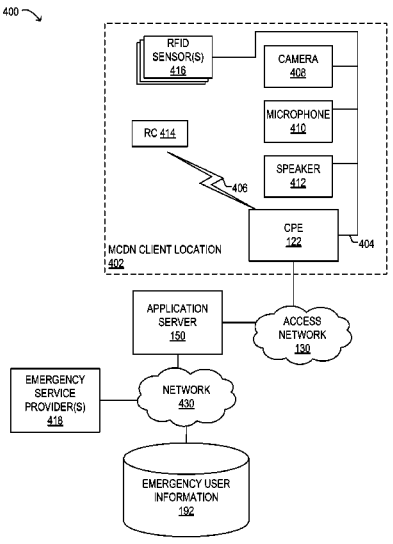
(57) **ABSTRACT**

A method and system for contacting emergency service providers may allow using a remote control (RC) at a multimedia content distribution network (MCDN) client location. An MCDN user may use the RC, which may be configured to control customer premises equipment at the MCDN client, to signal an emergency event. In response, an MCDN server may be queried for emergency user information associated with the MCDN client and/or the MCDN user. Based on the emergency user information, third parties, such as emergency service providers, medical service providers, or private persons, may be contacted via the MCDN. A communications channel, including audio and/or video, between an emergency service provider and the MCDN client may be initiated based on the emergency user information.

19 Claims, 5 Drawing Sheets



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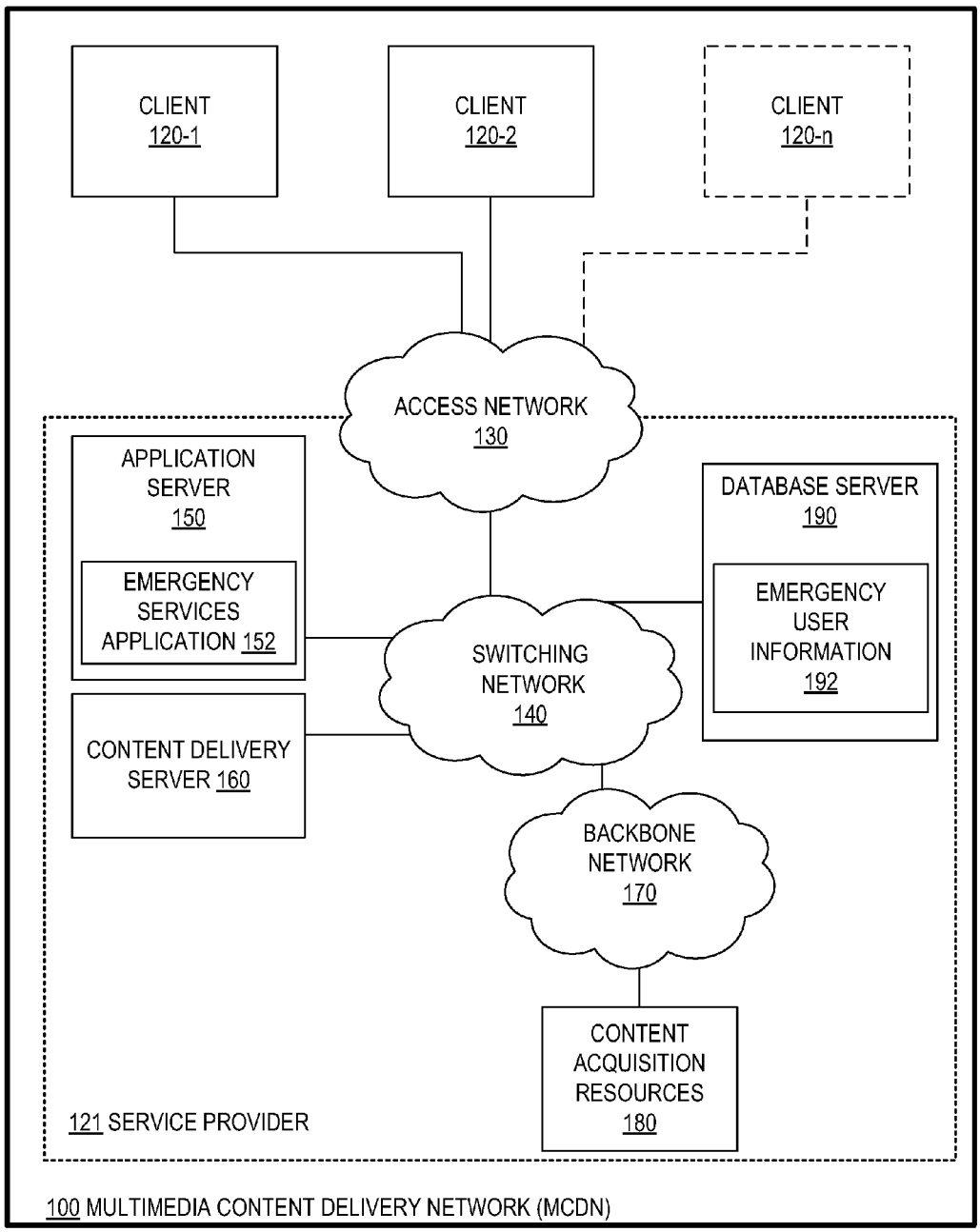
CLIENT
120-1
CLIENT
120-2
CLIENT
120-n
ACCESS NETWORK
130
APPLICATION
SERVER
150
EMERGENCY
SERVICES
APPLICATION 152
DATABASE SERVER
190
EMERGENCY
USER
INFORMATION
192
SWITCHING
NETWORK
140
CONTENT DELIVERY
SERVER 160
BACKBONE
NETWORK
170
CONTENT
ACQUISITION
RESOURCES
180
121 SERVICE PROVIDER
100 MULTIMEDIA CONTENT DELIVERY NETWORK (MCDN)

FIG. 1

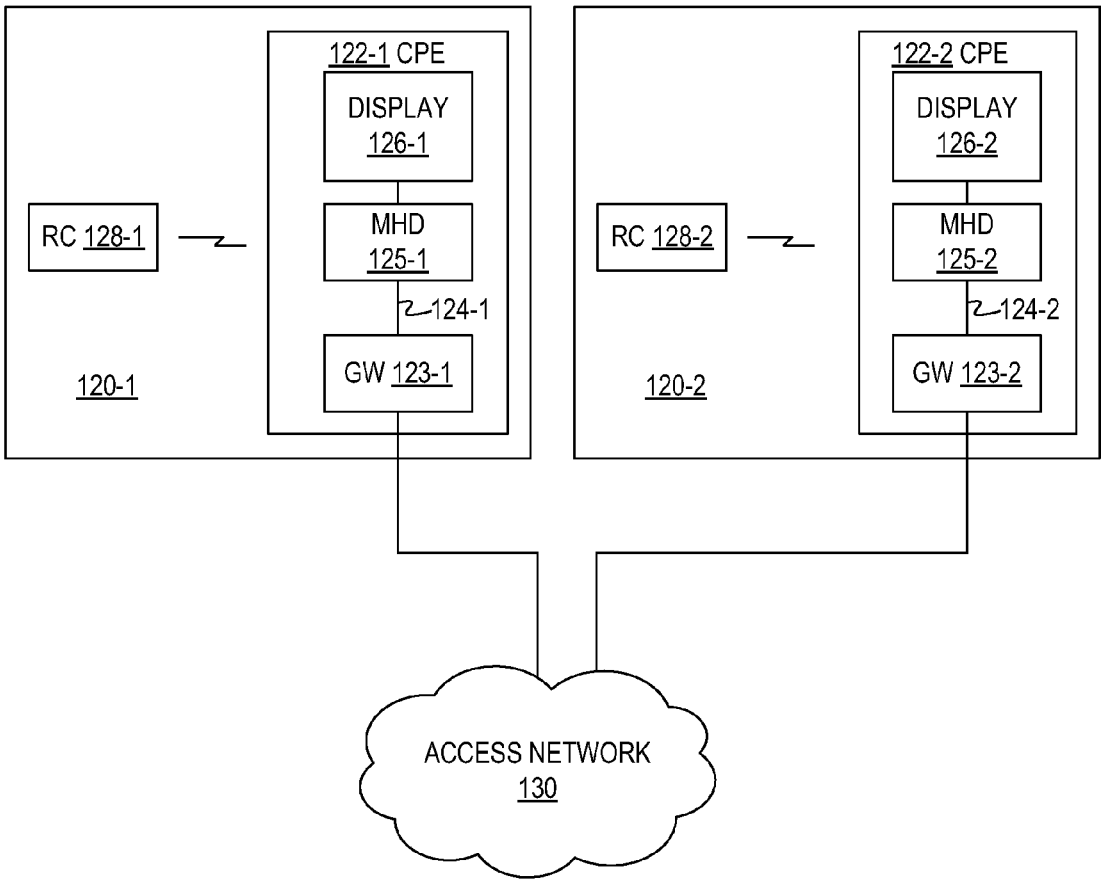
122-1 CPE
DISPLAY
126-1
MHD
125-1
124-1
GW 123-1
RC 128-1
120-1
122-2 CPE
DISPLAY
126-2
MHD
125-2
124-2
GW 123-2
RC 128-2
120-2
ACCESS NETWORK
130

FIG. 2

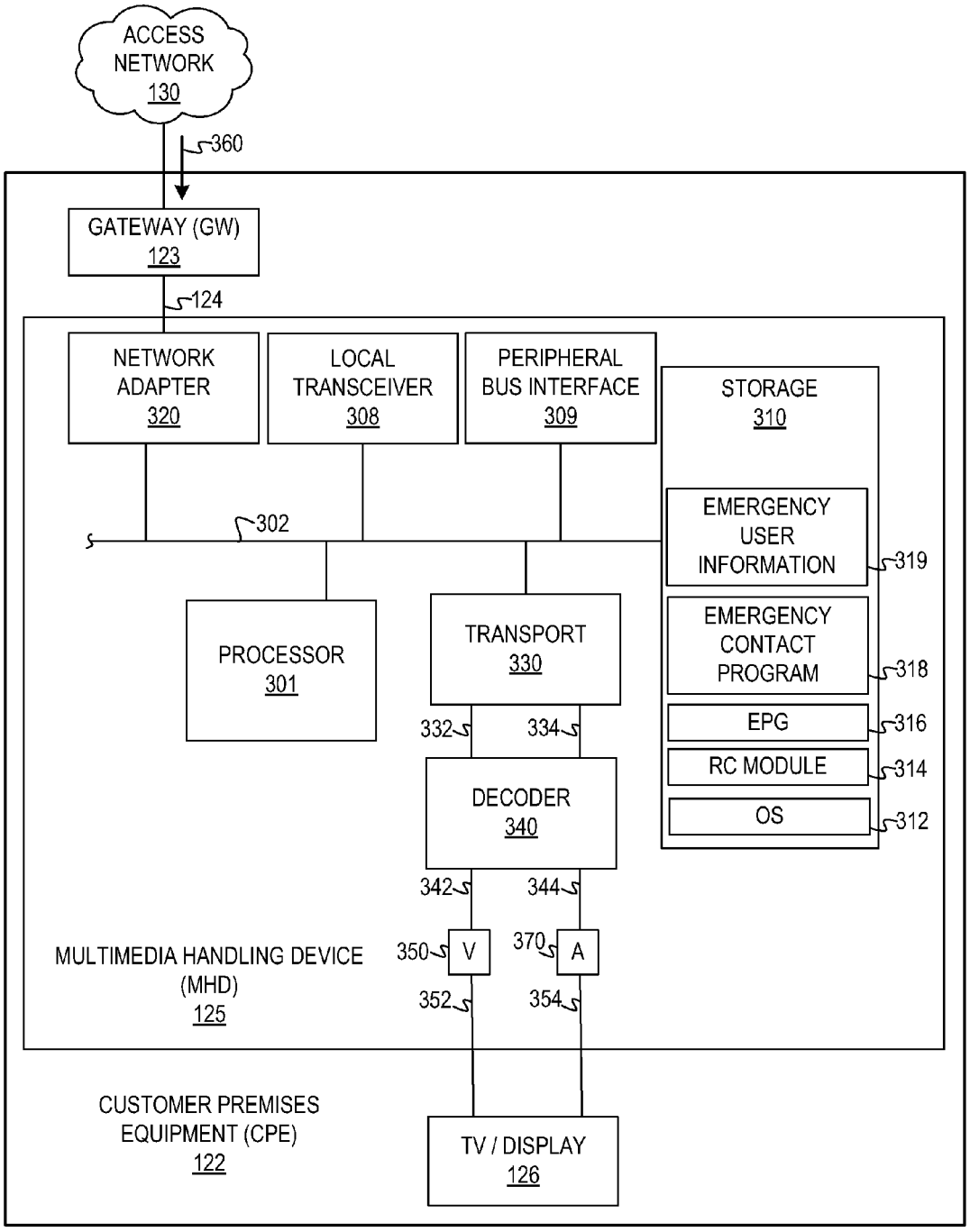
ACCESS NETWORK 130
360
GATEWAY (GW) 123
124
NETWORK ADAPTER 320
LOCAL TRANSCEIVER 308
PERIPHERAL BUS INTERFACE 309
STORAGE 310
EMERGENCY USER INFORMATION 319
EMERGENCY CONTACT PROGRAM 318
EPG 316
RC MODULE 314
OS 312
302
PROCESSOR 301
TRANSPORT 330
332
334
DECODER 340
342
344
350
V
370
A
352
354
MULTIMEDIA HANDLING DEVICE (MHD) 125
CUSTOMER PREMISES EQUIPMENT (CPE) 122
TV / DISPLAY 126

FIG. 3

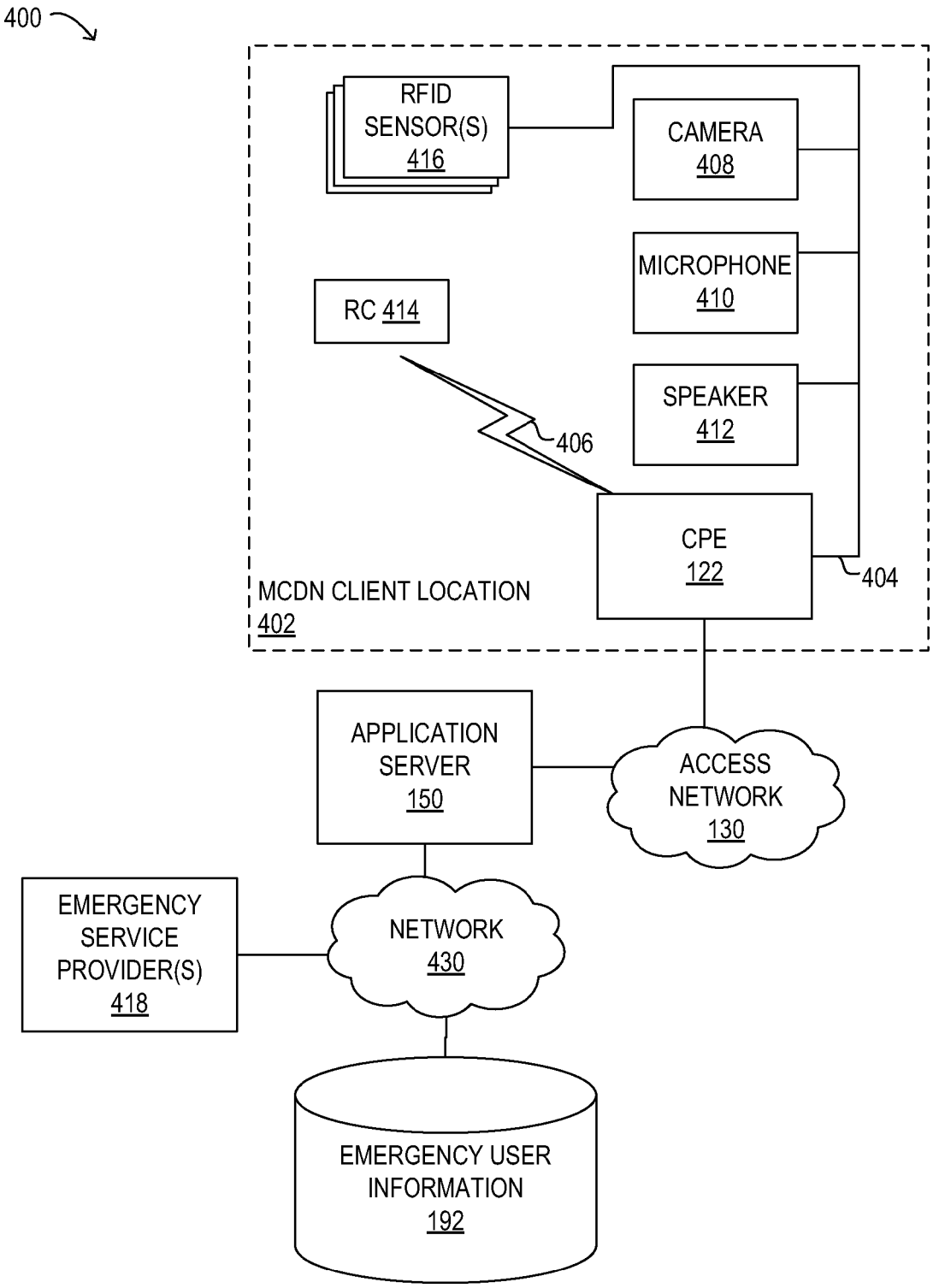
400
RFID SENSOR(S) 416
CAMERA 408
MICROPHONE 410
RC 414
SPEAKER 412
406
CPE 122
404
MCDN CLIENT LOCATION 402
APPLICATION SERVER 150
ACCESS NETWORK 130
EMERGENCY SERVICE PROVIDER(S) 418
NETWORK 430
EMERGENCY USER INFORMATION 192

FIG. 4

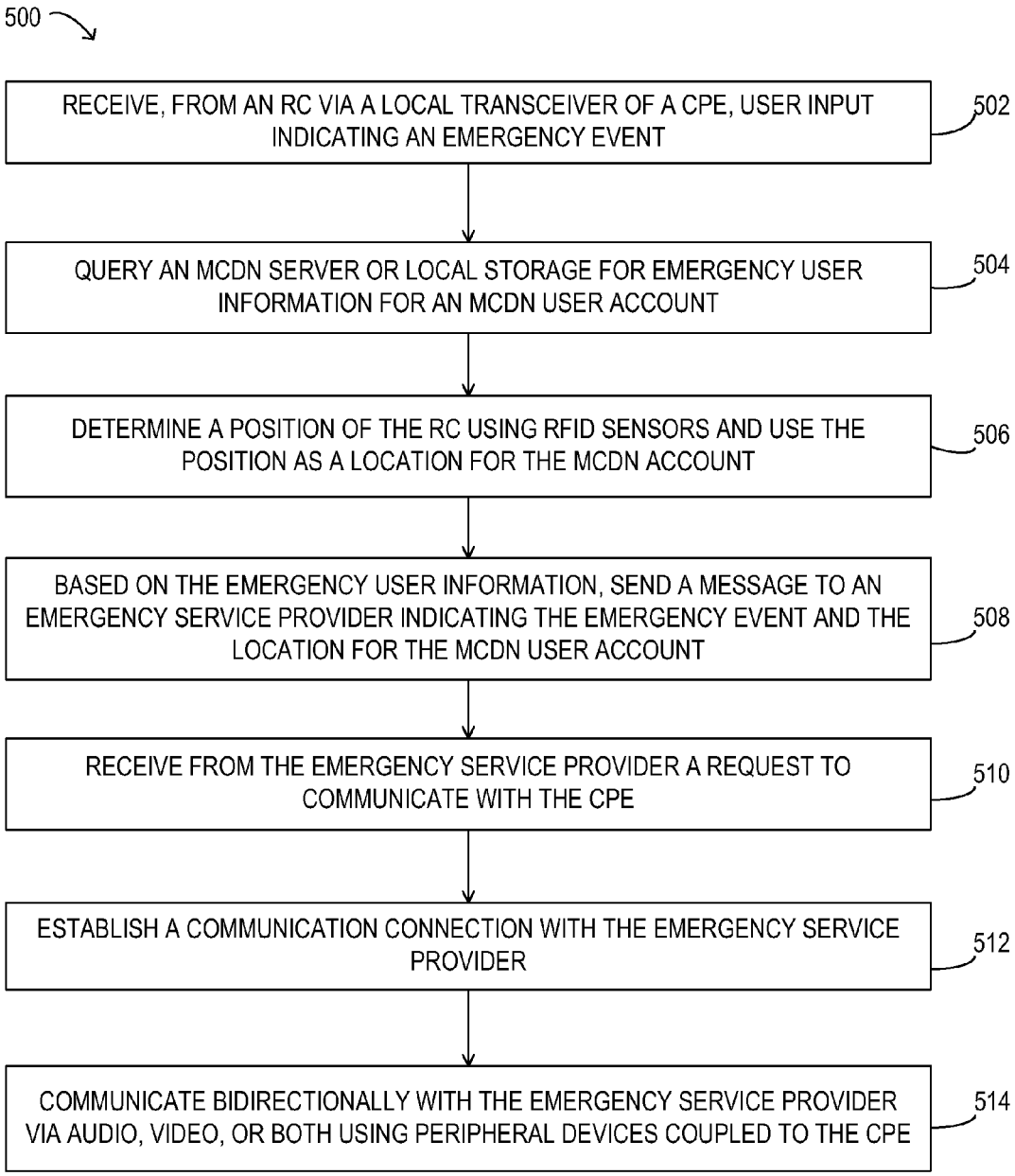
500
RECEIVE, FROM AN RC VIA A LOCAL TRANSCEIVER OF A CPE, USER INPUT INDICATING AN EMERGENCY EVENT
502
QUERY AN MCDN SERVER OR LOCAL STORAGE FOR EMERGENCY USER INFORMATION FOR AN MCDN USER ACCOUNT
504
DETERMINE A POSITION OF THE RC USING RFID SENSORS AND USE THE POSITION AS A LOCATION FOR THE MCDN ACCOUNT
506
BASED ON THE EMERGENCY USER INFORMATION, SEND A MESSAGE TO AN EMERGENCY SERVICE PROVIDER INDICATING THE EMERGENCY EVENT AND THE LOCATION FOR THE MCDN USER ACCOUNT
508
RECEIVE FROM THE EMERGENCY SERVICE PROVIDER A REQUEST TO COMMUNICATE WITH THE CPE
510
ESTABLISH A COMMUNICATION CONNECTION WITH THE EMERGENCY SERVICE PROVIDER
512
COMMUNICATE BIDIRECTIONALLY WITH THE EMERGENCY SERVICE PROVIDER VIA AUDIO, VIDEO, OR BOTH USING PERIPHERAL DEVICES COUPLED TO THE CPE
514

FIG. 5

REQUESTING EMERGENCY SERVICES VIA REMOTE CONTROL

BACKGROUND

1. Field of the Disclosure

The present disclosure relates to remote control functions and, more particularly, to requesting emergency services via remote control.

2. Description of the Related Art

Remote control devices provide convenient operation of multimedia equipment from a distance, including multimedia content distribution network (MCDN) systems. During an emergency, a user of an MCDN client system may be unable to use a telephone to contact emergency services or provide information to emergency personnel.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a block diagram of selected elements of an embodiment of a multimedia distribution network;

FIG. **2** is a block diagram of selected elements of an embodiment of a multimedia distribution network;

FIG. **3** is a block diagram of selected elements of an embodiment of a multimedia handling device;

FIG. **4** is a block diagram of selected elements of embodiments of an MCDN system configured to request emergency services; and

FIG. **5** illustrates an embodiment of a method for requesting emergency services via remote control.

DESCRIPTION OF THE EXEMPLARY EMBODIMENTS

In one aspect, a disclosed method for contacting emergency service providers over an MCDN may include receiving, from a remote control (RC) at an MCDN client, user input indicative of an emergency event, wherein the RC is configured to control customer premises equipment (CPE) of the MCDN. The method may include querying an MCDN server for emergency user information associated with the MCDN client. Based on the emergency user information obtained from the MCDN server, the method may also include notifying, via the MCDN, at least one emergency service provider of the emergency event. Prior to said receiving the user input from the RC, the method may further include receiving emergency user information for an MCDN account associated with the MCDN client.

In certain embodiments, the method operation of notifying may include sending a message via email, a voice-over-Internet-protocol connection (VoIP), a wireless text-messaging system, an instant messaging system, and/or an MCDN messaging system. The emergency user information may include contact information for at least one of: emergency service providers, medical service providers, and personal individuals. The method operation of notifying may also include sending a message including at least one of: an identifier for the MCDN client, a location of the MCDN client, a globally unique identifier (GUID), a location of CPE at the MDCN client location, and network connection information for the MCDN client. The network connection information may include information usable to initiate an audio and/or a video connection using the CPE. The network connection information may include information usable to initiate a bidirectional communication connection using the CPE.

In various embodiments, the method may include receiving, from a notified emergency service provider, a request to establish a communication connection using the CPE, while the communication connection may include at least one of: an audio connection and a video connection. The method may still further include establishing the communication connection with the notified emergency service provider.

In another aspect, a disclosed CPE for use within a client configuration of an MCDN may include a processor configured to access memory media. The memory media may include instructions executable by the processor to receive user input indicative of an emergency event, and access emergency user information associated with an MCDN user account for the CPE. The memory media may further include instructions executable to send, via the MCDN and based on the emergency user information, a message to an emergency service provider, the message indicating the emergency event and a location associated with the MCDN user account. The emergency user information may include contact information for the emergency service provider and location information for the CPE.

In certain embodiments, the CPE may further include a local transceiver coupled to the processor, while the memory media may further include processor instructions executable to receive the user input from an RC via the local transceiver. The memory media may still further include processor instructions executable to determine a position of the RC relative to a plurality of radio-frequency identification (RFID) sensors at the MCDN client location, and use the position as the location associated with the MCDN user account.

In particular embodiments, the CPE may also include a peripheral bus interface coupled to the processor, while the memory media may further include processor instructions executable to receive, from the emergency service provider, a request to establish a communication connection using a peripheral device coupled to the peripheral bus interface, and establish the communication connection with the notified emergency service provider. The peripheral device may include an audio device, while the communication connection may include an audio connection. The peripheral device may include an imaging device, while the communication connection may include an image connection. The peripheral device may include a video camera, while the image connection may include a video connection.

In yet another aspect, a disclosed computer-readable memory media includes executable instructions for accessing emergency services via an RC configured to control CPE of an MCDN. The instructions may be executable to receive, from the RC, user input indicative of an emergency event, and obtain emergency user information associated with a user of the RC. Based on the emergency user information, the instructions may be executable to send a message to an emergency service provider, the message indicating the emergency event and a location associated with the RC. The emergency user information may be obtained from an MCDN server. The message may be sent via the MCDN.

In some embodiments, the memory media may further include instructions executable to receive, from the emergency service provider, a request to establish a communication connection via the MCDN, and establish the communication connection with the emergency service provider.

In the following description, details are set forth by way of example to facilitate discussion of the disclosed subject matter. It should be apparent to a person of ordinary skill in the field, however, that the disclosed embodiments are exemplary and not exhaustive of all possible embodiments.

Turning now to the drawings, FIG. **1** is a block diagram illustrating selected elements of an embodiment of MCDN

100. Although multimedia content is not limited to TV, video on demand (VOD), or pay-per-view (PPV) programs, the depicted embodiments of MCDN **100** and its capabilities are primarily described herein with reference to these types of multimedia content, which are interchangeably referred to herein as "multimedia content", "multimedia content programs", "multimedia programs" or, simply, "programs."

The elements of MCDN **100** illustrated in FIG. **1** depict network embodiments with functionality for delivering multimedia content to a set of one or more subscribers. It is noted that different embodiments of MCDN **100** may include additional elements or systems (not shown in FIG. **1** for clarity) as desired for additional functionality, such as data processing systems for billing, content management, customer support, operational support, or other business applications.

As depicted in FIG. **1**, MCDN **100** includes one or more clients **120** and a service provider **121**. Each client **120** may represent a different subscriber of MCDN **100**. In FIG. **1**, a plurality of n clients **120** is depicted as client **120-1**, client **120-2** to client **120-*n***, where n may be a large number. Service provider **121** as depicted in FIG. **1** encompasses resources to acquire, process, and deliver programs to clients **120** via access network **130**. Such elements in FIG. **1** of service provider **121** include content acquisition resources **180** connected to switching network **140** via backbone network **170**, as well as application server **150**, database server **190**, and content delivery server **160**, also shown connected to switching network **140**.

Access network **130** demarcates clients **120** and service provider **121**, and provides at least one connection path between clients **120** and service provider **121**. In some embodiments, access network **130** is an Internet protocol (IP) compliant network. In some embodiments, access network **130** is, at least in part, a coaxial cable network. It is noted that in some embodiments of MCDN **100**, access network **130** is owned and/or operated by service provider **121**. In other embodiments, a third party may own and/or operate at least a portion of access network **130**.

In IP-compliant embodiments of access network **130**, access network **130** may include a physical layer of unshielded twisted pair cables, fiber optic cables, or a combination thereof. MCDN **100** may include digital subscriber line (DSL) compliant twisted pair connections between clients **120** and a node (not depicted) in access network **130** while fiber, cable or another broadband medium connects service provider resources to the node. In other embodiments, the broadband cable may extend all the way to clients **120**.

As depicted in FIG. **1**, switching network **140** provides connectivity for service provider **121**, and may be housed in a central office or other facility of service provider **121**. Switching network **140** may provide firewall and routing functions to demarcate access network **130** from the resources of service provider **121**. In embodiments that employ DSL compliant connections, switching network **140** may include elements of a DSL Access Multiplexer (DSLAM) that multiplexes many subscriber DSLs to backbone network **170**.

In FIG. **1**, backbone network **170** represents a private network including, as an example, a fiber based network to accommodate high data transfer rates. Content acquisition resources **180** as depicted in FIG. **1** encompass the acquisition of various types of content including broadcast content, other "live" content including national content feeds, and VOD content.

Thus, the content provided by service provider **121** encompasses multimedia content that is scheduled in advance for viewing by clients **120** via access network **130**. Such multimedia content, also referred to herein as "scheduled programming," may be selected using an electronic programming guide (EPG), such as EPG **316** described below with respect to FIG. **3**. Accordingly, a user of MCDN **100** may be able to browse scheduled programming well in advance of the broadcast date and time. Some scheduled programs may be "regularly" scheduled programs, which recur at regular intervals or at the same periodic date and time (i.e., daily, weekly, monthly, etc.). Programs which are broadcast at short notice or interrupt scheduled programs are referred to herein as "unscheduled programming."

Acquired content is provided to content delivery server **160** via backbone network **170** and switching network **140**. Content may be delivered from content delivery server **160** to clients **120** via switching network **140** and access network **130**. Content may be compressed, encrypted, modulated, demodulated, and otherwise encoded or processed at content acquisition resources **180**, content delivery server **160**, or both. Although FIG. **1** depicts a single element encompassing acquisition of all content, different types of content may be acquired via different types of acquisition resources. Similarly, although FIG. **1** depicts a single content delivery server **160**, different types of content may be delivered by different servers. Moreover, embodiments of MCDN **100** may include content acquisition resources in regional offices that are connected to switching network **140**.

Although service provider **121** is depicted in FIG. **1** as having switching network **140** to which content acquisition resources **180**, content delivery server **160**, and application server **150** are connected, other embodiments may employ different switching networks for each of these functional components and may include additional functional components (not depicted in FIG. **1**) including, for example, operational subsystem support (OSS) resources.

FIG. **1** also illustrates application server **150** connected to switching network **140**. As suggested by its name, application server **150** may host or otherwise implement one or more applications for MCDN **100**. Application server **150** may be any data processing system with associated software that provides applications for clients or users. Application server **150** may provide services including multimedia content services, e.g., EPGs, digital video recording (DVR) services, VOD programs, PPV programs, Internet-protocol television (IPTV) portals, digital rights management (DRM) servers, navigation/middleware servers, conditional access systems (CAS), and remote diagnostics, as examples.

Applications provided by application server **150** may be downloaded and hosted on other network resources including, for example, content delivery server **160**, switching network **140**, and/or on clients **120**. Application server **150** is configured with a processor and storage media (not shown in FIG. **1**) and is enabled to execute processor instructions, such as those included within a software application. As depicted in FIG. **1**, application server **150** may be configured to include emergency services application **152**, which, as will be described in detail below, may notify an emergency service provider of an emergency event at MCDN client **120**.

Further depicted in FIG. **1** is database server **190**, which provides hardware and software resources for data warehousing. Database server **190** may communicate with other elements of the resources of service provider **121**, such as application server **150** or content delivery server **160**, in order to store and provide access to large volumes of data, information, or multimedia content. In some embodiments, database server **190** includes a data warehousing application, accessible via switching network **140**, that can be used to record and access structured data, such as program or channel meta-

data for clients **120**. Database server **190** may also store device information, such as identifiers for client **120**, model identifiers for remote control devices, and other equipment at MCDN client **120**. As shown in FIG. **1**, database server **190** may include emergency user information **192**, which may be used by emergency services application **152** to notify emergency service providers and/or to establish communication channels to MCDN client **120**.

Turning now to FIG. **2**, clients **120** are shown in additional detail with respect to access network **130**. Clients **120** may include network appliances collectively referred to herein as CPE **122**. In the depicted embodiment, CPE **122** includes the following devices: gateway (GW) **123**, multimedia handling device (MHD) **125**, and display device **126**. Any combination of GW **123**, MHD **125**, and display device **126** may be integrated into a single physical device. Thus, for example, CPE **122** might include a single physical device that integrates GW **123**, MHD **125**, and display device **126**. As another example, MHD **125** may be integrated into display device **126**, while GW **123** is housed within a physically separate device.

In FIG. **2**, GW **123** provides connectivity for client **120** to access network **130**. GW **123** provides an interface and conversion function between access network **130** and client-side local area network (LAN) **124**. GW **123** may include elements of a conventional DSL or cable modem. GW **123**, in some embodiments, may further include routing functionality for routing multimedia content, conventional data content, or a combination of both in compliance with IP or another network layer protocol. In some embodiments, LAN **124** may encompass or represent an IEEE 802.3 (Ethernet) LAN, an IEEE 802.11-type (WiFi) LAN, or a combination thereof. GW **123** may still further include WiFi or another type of wireless access point to extend LAN **124** to wireless-capable devices in proximity to GW **123**. GW **123** may also provide a firewall (not depicted) between clients **120** and access network **130**.

Clients **120** as depicted in FIG. **2** further include a display device or, more simply, a display **126**. Display **126** may be implemented as a TV, a liquid crystal display screen, a computer monitor, or the like. Display **126** may comply with a display standard such as National Television System Committee (NTSC), Phase Alternating Line (PAL), or another suitable standard. Display **126** may include one or more integrated speakers to play audio content.

Clients **120** are further shown with their respective remote control **128**, which is configured to control the operation of MHD **125** by means of a user interface (not shown in FIG. **2**) displayed on display **126**. Remote control **128** of client **120** is operable to communicate requests or commands wirelessly to MHD **125** using infrared (IR) or radio frequency (RF) signals. MHDs **125** may also receive requests or commands via buttons (not depicted) located on side panels of MHDs **125**. In some embodiments, remote control **128** may represent a universal remote control device that is configured to control multiple pieces of equipment.

MHD **125** is enabled and configured to process incoming multimedia signals to produce audio and visual signals suitable for delivery to display **126** and any optional external speakers (not depicted in FIG. **2**). Incoming multimedia signals received by MHD **125** may be compressed and/or encrypted, digital or analog, packetized for delivery over packet switched embodiments of access network **130** or modulated for delivery over cable-based access networks. In some embodiments, MHD **125** may be implemented as a stand-alone set top box suitable for use in a co-axial or IP-based multimedia content delivery network.

Referring now to FIG. **3**, a block diagram illustrating selected elements of an embodiment of MHD **125** is presented. In FIG. **3**, MHD **125** is shown as a functional component of CPE **122** along with GW **123** and display **126**, independent of any physical implementation, as discussed above with respect to FIG. **2**. In particular, it is noted that CPE **122** may be any combination of GW **123**, MHD **125** and display **126**.

In the embodiment depicted in FIG. **3**, MHD **125** includes processor **301** coupled via shared bus **302** to storage media collectively identified as storage **310**. MHD **125**, as depicted in FIG. **3**, further includes network adapter **320** that interfaces MHD **125** to LAN **124** and through which MHD **125** receives multimedia content **360**. GW **123** is shown providing a bridge between access network **130** and LAN **124**, and receiving multimedia content **360** from access network **130**.

In embodiments suitable for use in IP-based content delivery networks, MHD **125**, as depicted in FIG. **3**, may include transport unit **330** that assembles the payloads from a sequence or set of network packets into a stream of multimedia content. In coaxial-based access networks, content may be delivered as a stream that is not packet-based and it may not be necessary in these embodiments to include transport unit **330**. In a coaxial implementation, however, clients **120** may require tuning resources (not explicitly depicted in FIG. **3**) to "filter" desired content from other content that is delivered over the coaxial medium simultaneously and these tuners may be provided in MHDs **125**. The stream of multimedia content received by transport unit **330** may include audio information and video information and transport unit **330** may parse or segregate the two to generate video stream **332** and audio stream **334** as shown.

Video and audio streams **332** and **334**, as output from transport unit **330**, may include audio or video information that is compressed, encrypted, or both. A decoder unit **340** is shown as receiving video and audio streams **332** and **334** and generating native format video and audio streams **342** and **344**. Decoder **340** may employ any of various widely distributed video decoding algorithms including any of the Motion Pictures Expert Group (MPEG) standards, or Windows Media Video (WMV) standards including WMV 9, which has been standardized as Video Codec-1 (VC-1) by the Society of Motion Picture and Television Engineers. Similarly decoder **340** may employ any of various audio decoding algorithms including Dolby® Digital, Digital Theatre System (DTS) Coherent Acoustics, and Windows Media Audio (WMA).

The native format video and audio streams **342** and **344** as shown in FIG. **3** may be processed by encoders/digital-to-analog converters (encoders/DACs) **350** and **370** respectively to produce analog video and audio signals **352** and **354** in a format compliant with display **126**, which itself may not be a part of MHD **125**. Display **126** may comply with NTSC, PAL or any other suitable television standard.

Storage **310** encompasses persistent and volatile media, fixed and removable media, and magnetic and semiconductor media. Storage **310** is operable to store instructions, data, or both. Storage **310** as shown may include sets or sequences of instructions, namely, an operating system **312**, a remote control application program identified as RC module **314**, EPG **316**, emergency contact program **318**, and emergency user information **319**. Operating system **312** may be a UNIX or UNIX-like operating system, a Windows® family operating system, or another suitable operating system. In some embodiments, storage **310** is configured to store and execute instructions provided as services to client **120** by application server **150**, as mentioned previously.

EPG **316** represents a guide to the multimedia content provided to client **120** via MCDN **100**, and may be shown to the user as an element of the user interface. The user interface may include a plurality of menu items arranged according to one or more menu layouts, which enable a user to operate MHD **125**. The user may operate the user interface, including EPG **316**, using remote control **128** (see FIG. **2**) in conjunction with RC module **314**. In some embodiments, emergency services application **152** (see FIG. **1**), in conjunction with emergency contact program **318**, provides functionality to contact an emergency service provider based on user input to remote control **128**, as will be described in detail below.

Local transceiver **308** represents an interface of MHD **125** for communicating with external devices, such as remote control **128**, or another universal remote control device. Local transceiver **308** may provide a mechanical interface for coupling to an external device, such as a plug, socket, or other proximal adapter. In some cases, local transceiver **308** is a wireless transceiver, configured to send and receive IR or RF or other signals. Local transceiver **308** may be accessed by RC module **314** for providing remote control functionality. Also shown with MHD **125** is peripheral bus interface **309**, which may be used to couple external peripheral devices to CPE **122** (see also FIG. **4**, element **404**). Peripheral bus interface **309** may be accessible to storage **310** and processor **301** via local bus **302**.

Turning now to FIG. **4**, a block diagram of selected elements of an embodiment of MCDN system **400** is depicted. In MCDN system **400**, CPE **122**, peripheral bus **404**, speaker **412**, microphone **410**, camera **408**, RC **414**, and RFID sensor(s) **416** may be at MCDN client location **402**, representing a physical location of MCDN client **120** (see FIG. **1**). MCDN system **400** illustrates devices, interfaces and information that may be processed, in one embodiment, to notify an emergency service provider of an emergency event at MCDN client location **402**. It is further noted that like numbered elements in FIG. **4** represent components discussed above with respect to FIGS. **1-3**.

In FIG. **4**, RC **414** may be operated by a user (not shown) of remote control CPE **122**. For example, RC **414** may be usable to operate EPG **316** and/or to select and receive IPTV channels using CPE **122**. RC **414** may also include a control element for notifying CPE **122** of an emergency event, as will be described in detail below. RC **414** may be in communication with CPE via communication link **406**. It is noted that in FIG. **4**, communication link **406** may be a wireless or mechanically connected interface. For example, communication link **406** may be an IR or an RF interface.

As shown in FIG. **4**, CPE **122** may be coupled to peripheral bus **404**, which may provide CPE **122** with access to peripheral devices. Examples of peripheral bus **404** include the Universal Serial Bus (USB), and IEEE 1394, among others. Speaker **412** is shown as a peripheral device, which may represent any of a number of audio output devices and/or interfaces, such as loudspeakers, headphones, etc. Microphone **410** is also shown in FIG. **4** as a peripheral device, representing any of a number of audio input devices. Camera **408** is another depicted peripheral device, which may represent a still image camera or a video camera. RFID sensor(s) **416** are yet further peripheral device(s) depicted in FIG. **4**. RFID sensor(s) **416** may be placed at various locations within MCDN client location **402** for the purpose of providing more detailed location information. For example, RC **414** may include an RFID tag chip (not shown in FIG. **4**), which is detectable by RFID sensor(s) **416**. In case of an emergency event, RFID sensor(s) **416** may provide an exact location of RC **414**, which, if used to signal the emergency event by the user, may then assist in locating the user requiring emergency services.

In FIG. **4**, CPE **122** may itself store emergency user information (not shown in FIG. **4**) usable for contacting an emergency service provider. In various embodiments, CPE **122** may query application server **150** via access network **130**, which in turn may obtain emergency user information **192** via network **430**. It is noted that CPE **122** may obtain and store at least some portions of emergency user information **192** prior to the occurrence of an emergency event, such that CPE **122** is configured to respond to an emergency event with minimal delay.

CPE **122** may further contact emergency service provider(s) **418** in response to a user input indicating an emergency event. In this regard, CPE **122** may send a message to application server **150** via access network **130**, which may then forward the message to emergency service provider(s) **418** via network **430**. Messages so sent by CPE **122** to emergency service provider(s) **418** may be via email, a VoIP connection, a wireless text-messaging system, an instant messaging system, an MCDN messaging system, or any combination thereof. CPE **122** may accordingly use a number of different means for addressing a recipient of the messages.

It is also noted that emergency service provider(s) **418** may represent a plurality of emergency service providers, such as a paramedic service, a fire department, a police department, etc., while CPE **122** may be configured to send a message to multiple different emergency service provider(s) **418**. Thus, in certain embodiments, CPE **122** may send a plurality of messages to a number of different emergency service provider(s) **418** using various combinations of communication means.

The message sent by CPE **122** to emergency service provider(s) **418** in response to an emergency event may further include emergency user information usable to open a communication channel with CPE **122**. Messages sent by CPE **122** may therefore include various identifiers associated with CPE **122**, such as, but not limited to, an identifier for MCDN client **120**, a location of MCDN client **120**, a GUID for CPE **122**, a location of CPE **122** at MCDN client location **402**, and network connection information for MCDN client **120**. The identifiers may be usable to initiate an audio and/or video connection to the CPE, which may also be a bidirectional connection.

In operation of MCDN system **400**, as shown in FIG. **4**, a user (not shown) may experience or be a witness to an emergency event, such as a medical event, a criminal attack, a natural disaster, an accident, an injury, etc. In certain embodiments, the emergency event may cause the user to become incapacitated at some point. A control element in RC **414** that, when activated by the user, may cause RC **414** to send a signal or message to CPE **122** via communication link **406**, representing a notification of the emergency event is activated. CPE **122** may then, based on emergency user information **319** stored locally (see FIG. **3**) or emergency user information **192** obtained via an MCDN query, contact emergency service provider(s) **418**. CPE **122** may request emergency services at MCDN client location **402**. CPE **122** may further send a message including detailed location information, such as a location of RC **414** within MCDN client location **402**, provided using RFID sensor(s) **416**.

The message sent by CPE **122** may still further include identification information for MCDN client **120**, as discussed above, which may enable emergency service provider(s) **418** to initiate a communication channel between emergency ser-

vice provider(s) **418** and CPE **122**. CPE **122** may access peripheral devices via peripheral bus **404**, as described above, for providing local communications at MCDN client location **402**. The communication channel may enable emergency service provider(s) **418** to directly communicate with the user, or to evaluate the emergency situation at MCDN client location **402**. The communication channel may originate at a mobile device used by emergency service provider(s) **418**, such that communication may occur during travel by emergency service provider(s) **418** to MCDN client location **402** after emergency services at MCDN client location **402** have been requested.

In certain embodiments, MCDN system **400**, as described, may be used to request emergency services at a different location than MCDN client location **402**. In particular embodiments, MCDN system **400** may also be configured to contact other entities in lieu of, or in addition to, emergency service provider(s) **418**, such as medical providers and private persons (not shown in FIG. **4**). The interaction with such entities may include substantially similar embodiments as described above with respect to emergency service provider(s) **418**. The user may provide information for MCDN system **400** on how to respond to a notification of an emergency event via RC **414**, for example, by providing user input to emergency user information **192** and/or **319**. In some embodiments, MCDN system **400** may assess a charge to an MCDN user account associated with CPE **122** for emergency event related activity.

Turning now to FIG. **5**, an embodiment of method **500** for requesting emergency services via an RC is illustrated. In one embodiment, method **500** is performed by emergency contact program **318** in conjunction with emergency services application **152**. It is noted that certain operations described in method **500** may be optional or may be rearranged in different embodiments. In method **500**, it is assumed that a user operates RC **414** for controlling CPE **122**.

User input indicating an emergency event may be received from an RC via a local transceiver at a CPE (operation **502**). The RC may be configured with a dedicated control element for emergency event notification. An MCDN server or local storage may be queried for emergency user information for an MCDN user account (operation **504**). The MCDN user account may be associated with the user providing user input in operation **502** and/or with the CPE. The emergency user information may include information specifying entities or persons to automatically contact in response to the emergency event. In certain embodiments, different types of emergency events may be associated in the emergency user information with different entities, such as a paramedic, a fire department, or a police department.

Next, a position of the RC using RFID sensors may be determined and used as a location for the MCDN account (operation **506**). The position of the RC may serve to represent the position of the user, who may have become incapacitated to some degree as a result of the emergency event. Based on the emergency user information, a message to an emergency service provider may be sent, the message indicating the emergency event and the location for the MCDN user account (operation **508**). Then, a request may be received from the emergency service provider to communicate with the CPE (operation **510**). A communication connection with the emergency service provider may then be established (operation **512**). The emergency service provider may establish the communication connection to contact the user or to assess the situation at the MCDN client location with respect to the emergency event. The communication connection may enable the service provider to obtain further information from the user. The communication connection may be a bidirectional connection and may include video and/or audio connections to peripheral devices coupled to the CPE. The emergency service provider may communicate bidirectionally via audio, video, or both using peripheral devices coupled to the CPE (operation **514**).

To the maximum extent allowed by law, the scope of the present disclosure is to be determined by the broadest permissible interpretation of the following claims and their equivalents, and shall not be restricted or limited to the specific embodiments described in the foregoing detailed description.

What is claimed is:

1. An emergency service method, comprising:
- receiving, by a customer premises device of a multimedia network client, a remote control signal, indicative of an emergency event, from a remote control for the customer premises device;
- obtaining emergency service information indicative of an address of a customer premises corresponding to the customer premises device;
- obtaining a location of a remote control radio frequency identification (RFID) tag within the customer premises;
- sending, by the customer premises device, an emergency service request to an emergency service provider, the emergency service request including:
  - the address of the customer premises; and
  - the location of the of the remote control RFID tag within the customer premises; and
  - video connection information for establishing a video connection from the customer premises device to the emergency service provider;
- receiving, from the emergency service provider, a request to establish a communication connection with a peripheral device coupled to a peripheral bus interface of the customer premises device; and
- establishing the communication connection between the peripheral device and the emergency service provider.

2. The method of claim **1**, wherein obtaining the location of the remote control RFID tag includes:
- obtaining, from a plurality of RFID sensors, sensor information indicative of a position of a remote control RFID tag relative to a particular RFID sensor; and
- determining, by the customer premises device, the location in accordance with the sensor information.

3. The method of claim **1**, the customer premises device comprises a set top box.

4. The method of claim **1**, wherein the emergency service information includes emergency contact information for a provider selected from: emergency service provider contact information, medical service provider contact information, and emergency contact individuals contact information.

5. The method of claim **1**, wherein the emergency service request includes network connection information.

6. The method of claim **5**, wherein the network connection information includes audio connection information usable to establish an audio connection with the customer premises device.

7. The method of claim **5**, wherein the network connection information includes video connection information usable to establish a video connection with the customer premises device.

8. The method of claim **5**, wherein the network connection information includes information usable to establish a bidirectional communication connection with the customer premises device.

9. The method of claim 1, wherein the communication connection includes a connection selected from: an audio connection and a video connection.

10. A customer premises device, comprising:

a processor;

a peripheral bus interface coupled to the processor, and

a computer readable storage medium accessible to the processor, the storage medium including processor executable instructions that, when executed by the processor, cause the processor perform operations comprising:

receiving, by a customer premises device of a multimedia network client, a remote control signal, indicative of an emergency event, from a remote control for the customer premises device;

obtaining emergency service information indicative of an address of a customer premises corresponding to the customer premises device;

obtaining a location of a remote control radio frequency identification (RFID) tag within the customer premises;

sending, by the customer premises device, an emergency service request to an emergency service provider, the emergency service request including:

the address of the customer premises;

the location of the RFID tag within the customer premises; and

video connection information for establishing a video connection from the customer premises device to the emergency service provider;

receiving, from the emergency service provider, a request to establish a communication connection using a peripheral device coupled to a peripheral bus interface of the customer premises device; and

establishing the communication connection with peripheral device and the emergency service provider.

11. The customer premises device of claim 10, wherein the emergency service information includes emergency service provider contact information.

12. The customer premises device of claim 10, further comprising:

a local transceiver coupled to the processor, wherein the operations include:

receiving the remote control signal from the remote control via the local transceiver.

13. The customer premises device of claim 10, wherein the peripheral device includes an audio device, and wherein the communication connection includes an audio connection.

14. The customer premises device of claim 10, wherein the peripheral device includes an imaging device, and wherein the communication connection includes an image connection.

15. The customer premises device of claim 14, wherein the peripheral device includes a video camera and the image connection includes a video connection.

16. A non-transitory computer-readable storage medium, including processor executable instructions that, when executed by a processor, cause the processor to perform operations comprising:

receiving, by a customer premises device of a multimedia network client, a remote control signal, indicative of an emergency event, from a remote control for the customer premises device;

obtaining emergency service information indicative of an address of a customer premises corresponding to the customer premises device;

obtaining a location of a remote control RFID tag within the customer premises;

sending, by the customer premises device, an emergency service request to an emergency service provider, the emergency service request including:

the address of the customer premises;

the location of the radio frequency identification (RFID) tag within the customer premises; and

video connection information for establishing a video connection from the customer premises device to the emergency service provider;

receiving, from the emergency service provider, a request to establish a communication connection using a peripheral device coupled to a peripheral bus interface of the customer premises device; and

establishing the communication connection with the emergency service provider.

17. The computer readable storage medium of claim 16, wherein the remote control signal is indicative of an emergency event and a type of the emergency event.

18. The computer readable storage medium of claim 17, wherein the emergency service information indicates a particular emergency service provider associated with the type of emergency.

19. The computer readable storage medium of claim 18, wherein sending the emergency services request comprises:

sending the emergency services request to the particular emergency service provider.

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